

Media education in the age of digital capitalism

Professor David Buckingham

Loughborough University and Kings College London, UK

1. Introduction

It's more than 10 years ago, since I was last in Japan and the world has changed. What I want to do in my talk is consider how media education needs to keep up with changing times. In particular, changes in the media landscape, or what I'm calling here digital capitalism. At a time of change it's really important to look back as well as look forward. I think we actually need this at this point more than at many other times. We need some history. If we want to understand how things are going to change, we need to look back to the origin all of the media we're talking about.

2. The end of cyber-utopianism

I recently read a very interesting book by Fred Turner. It's called "From counter-culture to cyber-culture". And what Fred Turner does in this book is look at the origins of cyber-culture, the origins of the internet, and the origins of what he calls a kind of utopianism about the impact of new media. He picks on this book Whole Earth Catalog. It was published in about 1968, about 50 years ago. And this book was really written for the hippie counterculture: it's like the internet in a book. The Idea is that through the Whole Earth Catalog, members of the counterculture would be given access to information, given access to truth. Many of the claims that people now make about the internet were being made about this book at the time. It's a very large book!

And in his book Fred Turner traces the evolution of this history. He traces for example Stewart Brand, who was the author of this Whole Earth Catalog, and then entrepreneurs like Steve Jobs who founded Apple Computer. And he traces how the original ideas of these people came out of the hippie counterculture, but gradually merged with a kind of new capitalist entrepreneurial thinking. Steve Jobs in particular makes a big shift from being a utopian hippie to being a capitalist entrepreneur.

But the whole idea that runs through this history is an idea of technology as a means to revolution, technology as a means of empowerment for ordinary people. In a way we could say it's a very deterministic idea about technology. It's as though technology arrives somehow by some magical process and changes society, changes individuals, changes the wider society, almost irrespective of how it is used, irrespective of who is using it. Technology has this deterministic influence on society. I think we can detect those ideas in the late 1970s and early 1980s when people are beginning to see the origins of digital technology

and then the coming of the internet. And we can see these ideas returning around the beginning of the millennium. So after the dot.com bust, the market crashes and we have the emergence of Web 2.0 or what we now call social media, the idea of a more participatory internet. And the claim here again is about technology as a means of liberation. To get back to the hippie slogan, this is about power to the people. Technology will be empowering for ordinary people.

3. Cyber-utopianism in education

We can see some of the same ideas in education as well. For example, Apple Computers have been particularly skillful in targeting the education market with a similar kind of cyber utopianism. This idea of technology as liberation is used in the marketing of technology in the context of education as well. The idea is that technology will transform learning, technology will empower students, it will liberate teachers as well. Some say if it will just make teachers redundant, others say it will allow teachers to take a new role, a more empowering role.

I have to say my position on this is a very skeptical one. I think we've seen a history of failed promises about technology in education. You can look back to the coming of television in the 1950s and 1960s, or even to the cinema in the 1920s and you find people making some of the same arguments. Here is new technology: the film camera, the film projector, the television. These things will liberate teachers and students, they will fundamentally transform education. And really what's happened is that these big promises do not get fulfilled. What often happens is the technology goes into the background, people don't really use it. So we have a history of failed promises.

I would say this is true with digital technology as well. We know that this technology can be part of broader educational change, change in pedagogy. Where we have inspiring teachers, they can also use technology in inspiring ways. But when we look at how technology is used in education, what we find is that it's often used in quite narrow reductive ways. Technology is often used for testing rather than teaching, it's often used as a way of gathering data. But it's actually very rarely used as a means of bringing about fundamental pedagogical change. Often the use of technology in school does not connect with what children are doing with technology outside school. I can remember the first computers arriving in my school in London at the end of the 1970s, when I was a teacher. And I can remember some of these big claims about the difference this technology would make. At that time probably this was the children's first experience of a computer, the first time they'd seen a computer. Now most of the students you teach are walking around with a computer in their pocket, a smartphone. Technology is much more widely distributed in the world outside school. And one of the problems with technology in school is that it doesn't keep step with what is changing outside school.

4. From dream to nightmare

So I think this has been a big problem in the history of technology and education generally. We have

a history of utopian promises about how technology will create wonderful forms of liberation and empowerment and change. However, in the last year or two years. The debate about this is beginning to shift quite significantly. The dream of technological liberation is giving way to a nightmare.

These are some recent newspaper headlines from the UK. We have Google the terrorists friend. We have cyber sex games on the internet. We have social websites destroying children's brains, destroying their attention span, causing them to be addicted. These are probably very familiar claims. Of course, these newspapers are very threatened by this technology. Newspapers have their own economic interests. So you would expect newspapers to have headlines about the dangers of technology. But still I think these things point to a big shift that is happening in the public debates about digital technology.

5. The politics and business of data

Another indication of this would be about a year or so ago, we had the Cambridge Analytica Scandal. This is the company that basically harvested data from something like 50 million Facebook users and sold the data to the presidential campaign of Donald Trump, without any of them knowing what was happening. Now this was a big scandal, a big story, but this is not an isolated example. It's actually a symptom of how this technology and how the business works much more generally, because companies like Facebook and Google are gathering and selling our data all the time. They're selling our data not just to political campaigns but also crucially to marketers. So, this story, the Cambridge Analytica Scandal, is actually a symptom of something that is happening much more widely within the media landscape.

6. The year of the tech-lash

And so we are seeing a big shift in the debate. We've seen a situation where even many of the executives of the companies that have been promoting media technology are now beginning to lose some of that optimism. Almost every month we have new books that are telling us how technology will take us all to hell. Everything's going wrong with society because of technology. This is a interesting example: Jaron Lanier, who was one of the real innovators and inventors of virtual reality has a new book called Ten Arguments for deleting your social media accounts right now. And we have in the middle Tim Wu. He was an executive of one of these companies, now writing about how big business destroyed the promise of the internet. There are many many books like this. And also I hear from the executives of companies like Apple, who say "I will not allow my own children to use computers. I won't allow my own children to use social media social networks".

So we're seeing a big shift - what some people are calling the tech-lash, the technological backlash. We have a history of very optimistic utopian claims but in the last couple of years, the whole debate has shifted quite dramatically. So what are people concerned about? Right from the beginning people were talking about pornography and pedophiles on the internet. In fact, it was pornography that fuelled much of the expansion of the internet, we shouldn't forget that. But now the biggest set of concerns is to do with

social and personal well-being: they're about democracy, about what kind of society we want to live in, and they're also about personal well-being, what kind of people do we want to be or do we want our children to become.

So we have a long list of concerns about fake news, the so-called post-truth society, disinformation on the internet. We are seeing concerns about young people being radicalized online. There are concerns about abuse and cyberbullying, hate speech, particularly on social media platforms like Twitter. We're seeing concerns about surveillance, about these companies gathering data and invading privacy and then using and analyzing that data, and selling it on to advertisers. This is how they are making money. We're also seeing concerns about personal well-being. So there's the idea that as we all take selfies and put them on our Facebook profiles, there's an epidemic of narcissism. People are apparently becoming more and more depressed, as they become heavy users of social media. We've heard about young people in particular being addicted to their smartphones. And that's just one example of a more general concern with the impact of these media on mental health.

Now as a media scholar, I want to have a bit of a sense of history. Because we can look back through history and, we can find similar negative claims about other new media. So if we look back to what people were saying about computer games in the 1990s, what people were saying about video in the 1980s, what people were saying about television in the 1950s and 60s, we can actually track the same claims. They are partly claims about sex and violence. So these media are seen to be promoting various forms of bad behavior if you like. But we can also see concerns about how these media are destroying children's play, how we are all becoming addicted to media. However, similar arguments were being made about the cinema in the 1920s, similar arguments back in the nineteenth century about popular literature, and popular musical theater. And, you can go right back to the ancient Greek philosopher Plato: in his book the Republic he writes about how the dramatic poets were particularly harmful for young people because they showed them bad role models. They were a bad and unhealthy influence. So on one level we seen all of these concerns before: it's the same kind of moral panic or what some people call a media panic.

However, I think we need to be careful about that. I don't think we have actually seen it all before. Some of these things that people are concerned about actually reflect broader changes that are going on in society, and particularly within the economy, right now. So on one level, let's be careful about these claims, let's be careful about words like addiction or indeed fake news, because these are not necessarily new things; and let's be careful about claims that we make about media influence. But nevertheless, I think we need to be aware of some broader patterns of change that are going on, and that media might contribute to.

7. The bigger picture

So we need a bigger picture. We're talking about a situation where a small number of companies are increasingly dominating the media landscape. This is digital capitalism, or what some people call communicative capitalism or platform capitalism, surveillance capitalism. But we are talking about a

situation where we have a small number of companies dominating the market. And they operate not in the traditional way by selling content, but actually by gathering and selling data. This is the famous line: if the service is free, then you are the product. You, or your data, is the product that is being bought and sold here.

And these four or five major companies are more or less, monopolies. Let me give you some figures. Facebook claims to have 2.2 billion active users: about 30% of the world's population is on Facebook. No other social network comes anywhere near Facebook. There are some like Instagram and Messenger that are beginning to get close but actually Facebook owns those platforms as well.

More than 90% of internet searches, about 3.5 billion searches every day, are on Google. And again the competitors are utterly trivial by comparison. There are other search engines, but Google is far and away the largest. Google is in fact the world's largest media company. It's twice as big as the second company, which is Disney. And, of course Google's parent company Alphabet also owns YouTube. Once again, YouTube is very much the market leader in multimedia sites: it has around 80% of the market share in multimedia. Something like 5 billion videos are watched on YouTube every day.

Meanwhile, Amazon dominates online retail: in fact just recently in the US Amazon has become half of the market in online shopping. And obviously that online market is growing all the time, as ordinary, bricks-and-mortar shops are disappearing. Somebody said it is not that Amazon wants to dominate the market, Amazon wants to be the market. Jeff Bezos who owns Amazon is officially the world's richest man.

Apple is obviously a hardware company and has a group of massively successful devices. It's sold 1 billion iPhones over the years. But, like Amazon it is increasingly moving into media production and distribution. So Amazon creates and distributes its own media content and actually has a large amount of money that it's investing in original media content. Apple is the same: it dominates music distribution, dominates paid-for movie content.

Netflix is becoming one of these companies. It has a market capitalization of 144 billion dollars. That's a big number and it's coming up very quickly behind Disney as the third largest media company: its revenue is rising by 40% a year, which is phenomenal in any industry.

So these are the FAANGs: Facebook, Amazon, Apple, Netflix, Google. You understand fangs are teeth, like vampire teeth. These companies have different profiles, and different histories, but they are among the most profitable companies in the world of any kind and they are going to work hard to keep it that way.

8. Total mediation

In addition to this, we're moving to a world where it's going to be harder and harder to tell where the media begin and end. You're familiar with the film The Matrix: it's hard not to imagine that perhaps we're all now living in The Matrix. The companies I've mentioned work by maximizing traffic, using algorithms that for most of us are completely invisible. We don't really understand how the algorithms work, what kinds of data they're gathering. And the business is about maximizing traffic, because clicks mean money,

clicks mean income.

And these media are increasingly ubiquitous. We're talking about Mobile Media, even wearable media. We're talking about virtual assistants, devices like Alexa and Siri that will actually overhear your conversations. So if you're at home, you're talking with your family, you are likely to have a device that will overhear your conversation and then recommend products to buy on the basis of what it's been listening to. It's quite scary.

This is something that's often seen to apply just to younger people and there's a lot of generational thinking about all of this. We're told that this doesn't apply to older people, it's just the millennials. But actually this is all of us. There are different patterns of adoption of technology among older and younger people. So, some younger people pick up on some devices before older people; but actually with some devices such as mobile phones, older people got into them first and younger people couldn't afford them. So, what we see is different patterns of adoption and dissemination of technology, but this increasing ubiquity of media is actually something that applies to all of us, not just young people. So, we're moving quite quickly to a situation where our whole society, our political system, our economy, arts and culture, our working lives, are actually suffused with technology, as well as our social relationships and our intimate relationships. Technology and media cannot be escaped: mediation is everywhere.

9. Media literacy: a magic solution?

So, what do we do about this and in particular what do Media Educators do about this? Well, over the last 15 years, possibly a little more, there's been a lot of talk about media literacy. I have been a media educator pretty much for my whole career, and media education - that is, teaching about media in schools - has a history in the UK, which is probably about 70 or 80 years long. Certainly since the 1960s people have been teaching about media. In the 1970s, there were specialized courses in media studies. However, this expression media literacy really came onto the agenda for us at the beginning of the millennium, around 2000. And media literacy, this idea of media literacy, has often been presented as a kind of magical solution to the problems that are apparently caused by media.

So, we have this vastly technologized, mediated world. How do we deal with it? The answer is that we all need to become media literate. This is fine, on one level. However, media literacy can be seen as a substitute for regulation. There's a way in which governments have become increasingly wary of regulation. They don't really want to regulate media markets. This is partly for political reasons, but it's also because they are very concerned that they can't regulate the media. So, in the UK, how can we regulate content on Facebook, for example? Facebook is a global company. It's very difficult for governments to regulate globalized media. It's very difficult for governments to regulate a decentralized technology like the internet. And of course, the companies themselves really don't want regulation. So, Mark Zuckerberg goes to Congress and says, yes, I'm very sorry about fake news. But actually Facebook and Google do not want regulation because that will threaten their enormous profitability. We

have governments and companies that are unwilling to regulate, and media literacy comes on the scene as a kind of alternative to regulation. The idea is that markets cannot be regulated, consumers need to regulate themselves.

And this then becomes a responsibility for educators. Teachers will be very familiar with this story. We have a social problem - drugs, teenage pregnancy, fake news – and the answer is education. It's always education. This is what is sometimes called solutionism. Education becomes the magic solution. The government says we can't deal with this - you deal with it. There's a passing of the buck to educators. Those of us who are media educators have been in an interesting position here, because partly we want to say 'Yes, we can deal with this. We know about fake news, we teach about news, we can solve this problem.' We think our time has come at last: we've been pushing and pushing and now our time has come. But I want to suggest this is a dangerous moment. Actually, there are some opportunities but also some dangers for educators in what is happening here.

10. How media literacy went wrong

I want to tell you a cautionary story about what happened with media literacy in the UK. It's not a happy story. In 2003, we had a new Communications Act, that changed the regulatory system for media. There was a new organization created called Ofcom, the office of communication. The Communications Act put together regulation of old media - not the press significantly, but broadcasting - with telecommunications regulation. And Ofcom was given the responsibility to promote something called media literacy. Media literacy was not defined here, but it was something that Ofcom was supposed to do very much as an alternative to regulation.

The government created this new super-regulator, but more broadly what it was doing was backing off. It was saying that we need to leave the market to get on with providing media. We are increasingly not going to regulate. Responsibility for regulation passed from the government to the individual. So, government wants people to regulate themselves, to control their uses of media, to cope with the problems of a media culture. And if we're going to do that, we need to make sure that they are literate, that they are competent to do so. This is a very individualistic approach. It's about pushing responsibility back to the consumer. There were many problems here, but the most important was that media literacy was never a priority for education. So Ofcom and the Communications Act were about media regulation. They were about media policy or communications policy. They were never about education policy and actually the policy makers in education were never really interested in media literacy.

11. What's wrong with media literacy?

As educators, we think of media literacy as something very broad. But in the making of policy this broader view of media literacy as a matter of critical thinking, critical understanding of media, gradually became narrower and narrower in scope. Five years on, media literacy really became about internet safety

and about the inclusion of disadvantaged groups – for example, for elderly people who were not getting online, media literacy was something to do with giving them confidence to use technology. Media literacy went from being something very broad, something to do with critical understanding and citizenship and education, to something very narrow, to do with warning people about safety online and ensuring that people are able to use technology. I'm not saying those things are not important, but I am saying that media literacy is much broader than that.

So what's wrong with media literacy? I think we need to make a distinction here between media literacy and media education. One of the problems with this view of media literacy is that it's about dealing with problems in isolation. So, we have a social problem; fake news, cyberbullying, addiction, etc. We take each problem and we need to find some simple fix, some way of dealing with the problem. And the difficulty there is that we're not looking at the causes of those problems. We just look at the symptoms. And what we end up with is 'quick fix' solutions. We have a problem with internet safety: let's give children lessons to warn them about all the pedophiles on the internet. We have often a very fragmentary set of solutions. For example, there are concerns about fake news: so let's teach children to tell the difference between lies and truth. If only it was so simple.

And what we also end up with is a very defensive approach, a protectionist approach. In promoting media literacy we seem to be constantly wagging our fingers. We need to be warning children about all these bad things that they need to avoid. Yet as educators many of us know that this finger-wagging is not a very effective teaching strategy. So, my argument here is that media literacy is often about solutionism: it's an individualistic answer to what is actually a much bigger set of social problems.

12. Media literacy requires education!

Media literacy requires education. If we really want people to be media literate, we can't just talk about it: we need proper programs of education of teaching and learning. The danger is that media literacy becomes a gesture that people make - of course, we all believe in media literacy - but actually very often people don't do anything to make media literacy happen. If we want to make media literacy happen, we need media education.

In schools what that means is that we need to teach about media and technology. There's a lot of teaching with technology, teaching through technology. Teachers are using computers just as they used to use educational television or educational media. That's fine, but what I'm talking about is teaching about media not just through media. We need to be asking critical questions about media and technology, and particularly about what is happening outside the classroom.

People often think this is about 'digital literacy'. However, digital literacy is often something very functional, very instrumental. It's about whether you can use a browser, or plug in the computer, or use a piece of software? It's mostly about an instrumental competence in using technology, a kind of skill in using technology. Media education is much more ambitious and more comprehensive. It's more

conceptually coherent and it's also more challenging. It's actually more difficult to teach than simply warning children about bad things. It's about critical thinking. It's partly about creativity and creative participation, but it's crucially about critical thinking.

So, it's been an interesting period. I have been talking about media education, and doing media education for a long time. There is a long history. About 15 years ago, people started suddenly talking about media literacy, but actually media literacy really didn't go anywhere. We are still pushing to try to make media education happen.

13. Critical concepts

I have been talking about critical thinking, but critical is a problem word. It's very easy to say: we all believe in being critical. So, what do I mean by critical? Well, in the UK, we have a media education curriculum that is based around a set of four concepts.

First, Media language. What we're looking at here is how media create meaning or how we create meanings from media. I think the important thing to say with regard to digital media and the internet is that the internet is not a free space where people come along and just express themselves. Social media like Facebook and Twitter are not open forums. They are places where there are rules, there are conventions, there are certain kinds of language that are possible, there are codes that govern how people behave. So, we need to study the kinds of language, the kinds of conventions that people use in these spaces.

Second, Representation. How do media represent reality? Again, when it comes to digital media, the key point here is that these media are not just 'information' technologies. It's often assumed that information is just out there, and it comes down the wire and into the screen and into our brains. Whereas, from a media education perspective, this is not just information. We need to ask questions about how reliable, how credible, this information is. How far should we trust the way this material represents the world?

Next is Production. Here we're asking who makes these media, how they make them and why. I've talked about this a little bit already, but the key insight is that digital media, social media are not free. They might seem to be free but actually people are making enormous amounts of money from them. These data-based business models are different from those of traditional media - from television, for example - but they are still controlled by very large companies.

Finally, Audience: who uses these media, how do they use them and why. Again, my key point here would be that this isn't just about empowerment, about self-expression. It is about creativity but it's also about surveillance, it's also about people gathering data about what all of us are doing on a minute by minute basis.

So those concepts, Media language, Representation, Production, Audience, these are concepts that we have been using since the 1970s at least, for looking at film, television, newspapers, computer games, and so on, I think we can use these concepts very easily to teach about social media as well. One of the things

I've been doing on my blog over the last few months, is to consider how we can use those concepts to help us understand and teach about what is happening on these social media platforms. I don't think we need a whole new set of ideas and concepts: we can actually use the ones that we're very familiar with.

14. The case of ‘fake news’

I want to give an example here, and talk about fake news, because I know there are journalists present who are interested in it. It's an example of the points I'm making more generally

Of course, ‘fake news’ has become an easy accusation – not least on the part of people like Donald Trump. ‘Fake news’ is an accusation that is used by everybody including some of the people who I would argue among the main purveyors of fake news. So, we need to be careful about this term. I also think we need to be careful about the evidence. We need to know how much news is fake news and indeed, what counts is fake news in the first place. How do we define fake news? How widely is it being spread, how prevalent is it, and how do we assess its influence? Many arguments have been made that people being somehow brainwashed by this flood of fake news. I think we need to take care: there is a danger of exaggeration, even of moral panic, here.

Above all, I would say that fake news is actually a symptom of much bigger changes that are happening. These are changes partly in the media business itself. On one level, fake news is a form of clickbait. It is something that encourages people to click, to distribute, to like to or indeed to hate. We often retweet or recirculate things we like but also things we hate, things we are outraged about, and fake news is very good from that perspective. This is how it generates lots of money for media businesses, because clicks mean data, and data means money.

In the case of the Trump campaign, they discovered that a lot of the so-called fake news was coming from a small town in Macedonia, in the Balkans: a group of teenagers discovered they could make a lot of money from fake news because if they put fake news up, they got advertising revenue. They didn't care about Donald Trump. They just found that telling Donald Trump supporters what they imagined they wanted was a very good way of making money. This tells you that fake news is clickbait: it's a symptom of the changing economics of the media industry.

At the same time, fake news is obviously a symptom of changes in the political climate. We're dealing with a more polarized political climate. It's a climate where conspiracy theories of many kinds are becoming much more popular and much more widespread. My point here is that these are bigger changes. They're not caused by fake news. Fake news is the symptom and not the primary cause. And there is a danger that if we focus on fake news we are oversimplifying or indeed we may be distracting attention from the bigger issues that are at stake. And there's a danger in thinking that if we fix the problem of fake news, then we've solved all these other problems – although the other problems are actually much bigger and more complicated.

15. Fake news: the quick fix

So, we need to take care with these claims about fake news; but we also need to be careful about how we attempt to solve the problem. Some people argue that there can be technological solutions. Mark Zuckerberg tells us that he'll create an algorithm that will solve the problem. You can get a computer game or an app that will apparently solve the problem of fake news for you. Mark Zuckerberg tells us that he'll employ some fact-checkers who will tell us the difference between facts and lies.

However, media literacy is also being presented as one possible answer to the problem. You can find checklists for distinguishing between what is true and what is false. There are often some good suggestions here: for example, you should look at the visual design of a website, which may well be part of how it claims authority, how it claims to be a reliable source. You should look at the sources of stories and cross-check between different sources and so on. This is all useful stuff, although I'm not sure that people are actually going to use these kinds of checklists all the time. There's a danger in assuming that this is something that you can teach in a very simple way. In a way, the checklist is another form of finger-wagging. It's another way of saying 'do this. don't do that'. I'm not sure that it's so useful.

16. Beyond the quick fix

In particular, the problem here is the assumption that we can very simply distinguish between truth and falsehood. Unfortunately it is not so simple. I'm not being stupidly postmodern about this. I think there are truths and there are lies, but the problem is the stuff in the middle. Most of what we come across has elements of truth and elements of lies. It has half-truths or quarter truths. There is a big gray area between truth and lies and it's in the gray area that we really need more than a checklist: we actually need critical thinking.

The other danger here is that it leads us to the assumption that once we've identified the fake news, then the real news is absolutely OK. So what real journalists do, what real news organizations do, we don't need to be critical of that because that's real news. Again, I think that critical thinking – those media education questions - should apply to real news just as much as they do to fake news.

So we need more than a 'quick fix' here. We need more than this simplistic idea of the distinction between facts and lies. And in media education, we do have a long history of teaching about this - about bias, objectivity, fairness, balance, and so forth. And we know that these are not all the same thing: these are complicated issues which we have experience in teaching about. Once we start to look into the academic analysis of news, we find that it's more complex than just truth and lies. We need to look at how journalists and also readers interpret a story. We need to look at how the news sets an agenda, how the news defines not just what to think but what to think about, what are the important issues. We need to look at how news frames a topic, how it defines what is important and relevant and what is not important and not relevant, what is inside the frame and what is outside the frame. We need to consider ideas about discourse, ideas about how language actually defines and constructs what we're talking about in the first

place - how a social problem is defined, for example through the labels that are used to identify it.

So, these are all much more complicated ideas which media researchers and media educators are familiar with. We are also used to the idea that news isn't just about rational processes of understanding: there are also emotional dimensions and symbolic dimensions. This is not just a process that we can somehow make into a rational process through education. So, this all needs critical thinking, Checklists are not going to be enough to help us really understand the complexity of this process: a simple 'quick fix' solution is not going to do the job. We can take those concepts that I talked about, but we need to apply them not just to the fake news but to all news. We also need to teach about the controversies themselves. It's important for students to engage in this debate – for example, about what is fake in the first place, who's talking about fake news, why are they talking about it, and why are we suddenly talking about this now? I think school students, high school students particularly, can actually engage in that debate themselves.

17. Applying the concepts

As I've suggested, we can take the four concepts and apply them to news. We can look at the language of news, the verbal and visual dimensions,. We can look at representation: how news is selected, how news stories are put together, how we are given particular interpretations of events. We can look at production, at the economics of news organizations, how these organizations are regulated. And we can look at audience; we can look at how people use news, how they participate, how far they trust what they read. So, those concepts that we are very familiar with through looking at old news - newspapers, television - we can apply to digital media as well.

And we can do that both through critical analysis and through creative production. A couple of years ago, I worked with some colleagues to produce a teaching pack for primary schools called Developing Media Literacy. One of the things we did - it's by no means an original idea – was to get the children to create their own news. We gave them raw material and they had to edit and write and then videotape their own news productions. And in the process, they had to think about all of these things. For example, they had to think about the language they were going to use, including the visual language. What was their studio going to look like? What would their presenter be wearing? They had to think about which stories they would select, which ones would go first, which ones would come later, how they would tell stories, how they would create a narrative. We made them be different kinds of media companies, and we got some children in the class to be regulators who would go around and fine the other children if they didn't tell the truth – which was quite a dramatic way of representing this. And we also asked them to think about different audiences: if you made a news program for children as opposed to a news program for adults, what difference would that make? So it's possible to take those concepts and apply them to fake news - or in fact all news.

18. But we also need regulation!

I've been arguing that we can and should be thinking, not about media literacy as a well-meaning slogan, but about media education as a systematic program of teaching and learning for all children. However, that doesn't mean we don't need regulation as well. I think we need both. One of my slogans here is that media education isn't just about individual learning to cope. It's also about demanding change. We need to think hard about how we make these digital media operate for the public good. There are many ways in which government regulates markets for the public good, and we can think about the internet as a potential public good. For me, the internet is like clean water or clean air - although these things are not necessarily very well regulated by the governments either. But we have to think about the internet in a similar way.

So, for example, we need to think about content. One of the responses of the internet companies to the fake news problem has been to say 'we know there is a problem, but it's not our problem. We are not responsible for content. We just provide a technological service: we are a technology company'. But in fact Facebook and others are not just technology companies, they are media companies. They are companies that publish and distribute media content; and there needs to be some way to control that kind of media content. A clear example would be political advertising. When it comes to television, at least in the UK, we have rules about how political issues will be dealt with. We do not allow indiscriminate political advertising. Television channels have to represent a balance of political beliefs. However, on the internet that doesn't apply. So there needs to be some way of regulating political communication: I think that's one thing we have learned from Donald Trump and from Brexit for us in the UK.

Another issue is privacy. There is a problem with a system that is based on collecting people's data without them necessarily even knowing that is what is happening. When you join Facebook, when you go on a new website, you will often now tick a box to accept the terms and conditions. But how many people ever read the terms and conditions? It's quite frightening if you do. Often what you're doing is signing away the rights to your data: all your content is owned by the people who own this website or this platform. We need at least greater transparency about this. It may be that we decide that that's the bargain, that's the contract that we strike and it's fine; but it needs to be much more transparent, much clearer what we're doing when we use these services or these platforms.

Another issue is access. Who has access to the internet? The emerging issue here will be that of net neutrality: the concern here is about the ability of companies to purchase better internet access to promote their goods. Equal access to the internet will not necessarily be available to all: you will have to pay in order to get better access. And this raises questions about who really owns the internet, who owns and controls the infrastructure.

Within capitalism, governments often recognize that monopoly is not necessarily the best way to run things. Monopoly does not necessarily always work in the interests of the customer or the consumer; and in many areas of business, we actually work to prevent monopolies, to promote competition. At the very least, these companies need to pay their taxes. At the moment many of them do not: Facebook, Google

are good at avoiding paying taxes. Indeed, I would like to see them pay more taxes and I would like to see the money used to promote media educational activities. But then I guess that's my own kind of utopian thinking.

19. To Sum up...

I started talking about the growing anxieties about the changing media environment. I argued that a lot of this anxiety tends to take problems in isolation - fake news, cyberbullying, hate speech and so on. It tends also to focus on the symptoms of what is happening rather than the causes. What we lack is a sense of the bigger picture here. I've argued that we need more than a 'quick fix' solution to these things, because they are actually symptoms of bigger changes that happening in the media landscape. Administering a little dose of finger-wagging is not going to solve the problem. Media education can provide the bigger picture. Media education has a clear, critical framework, which is both coherent and comprehensive. However, media education is not enough on its own. It may be part of the solution to the problem, but we also need media reform and regulation.